

DE 3203479 describes essential metal ion complexes of oligo- or poly-galacturonic acid of the general structural formula as given in claim 1 with n being an integer of 10 to 145 and  $M^{s+}$

indicating at least two of the metal cations  $Fe^{+2}$ ,  $Cu^{+1}$ ,  $Cu^{+2}$ ,  $Mg^{+2}$ ,  $K^{+1}$ ,  $Co^{+2}$ ,  $Mg^{+2}$ ,  $Zn^{+2}$ ,  $Cr^{+3}$ ,  $Mo^{+5}$ ,  $V^{+4}$  and  $Ni^{+2}$ , and wherein z is a number indicating the average of the integral loadings or valencies of the respective metal atoms according to their ratios.

The document further describes a method for producing compounds according to the one mentioned above whereby in a known matter a oligo- or poly-galacturonic acid of the general structural formula as given in claim 6 with n being defined as mentioned above is converted on the solid state or in aqueous and/or polar organic solution with salts containing  $M^{z+}$  ions having a lower stability constant than the metal ion complex of oligo- or poly-galacturonic acids to be produced, and, in the case that  $M^{+z}$  contains potassium ions, optional also with potassium hydroxide, wherein  $M^{+z}$  is defined as mentioned above, or with an oxidised for of these reaction partners. In addition to this conversion, a reduction of the produced metal ion complex of oligo- or poly-galacturonic acids is carried out in case of an input of metal ions in a higher oxidation level than according to the determination of  $M^{+z}$ .